

MARKED-UP VERSION OF AMENDED TITLE PAGE

PROCESS FOR PRODUCING SEMICONDUCTOR ARTICLE USING GRADED
E[X]PITAXIAL GROWTH

**MARKED-UP VERSION OF AMENDED TITLE AND PARAGRAPH OF
SPECIFICATION**

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PROCESS FOR PRODUCING SEMICONDUCTOR ARTICLE USING GRADED
E[X]PITAXIAL GROWTH

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This application is a divisional of application Serial No. 09/928,126, filed on August 10, 2001, which claims priority from provisional application Ser[.]ial No. 60/225,666, filed August 16, 2000, now expired, the entire disclosures of which are incorporated by reference herein.

MARKED-UP VERSION OF AMENDED CLAIMS

54. (Amended) A semiconductor structure comprising:
- a [first semiconductor] substrate including an insulator layer;
 - a [second]first layer of relaxed $\text{Si}_{1-x}\text{Ge}_x$ disposed over the insulator layer, wherein x [=]has a value in the range of 0.1 to 1; and
 - a [third] second layer disposed over the substrate, the second layer comprising [at least one of]a material selected from the group consisting of GaAs, AlAs, ZnSe, [and]InGaP, [or]and strained $\text{Si}_{1-y}\text{Ge}_y$ [wherein $y \neq x$]wherein y has a value different from the value of x .
55. (Amended) A semiconductor structure comprising:
- a [first] substrate[comprising monocrystalline silicon substrate];
 - a plurality of layers disposed over the substrate, the layers comprising:
 - a [second layer of]graded $\text{Si}_{1-x}\text{Ge}_x$ buffer layer, [wherein said] the graded buffer layer having a Ge concentration x , wherein x has a value that [is]increase[d]s from zero to a value y ;
 - a [third layer of]first relaxed [$\text{Si}_{1-y}\text{Ge}_y$]layer comprising $\text{Si}_{1-y}\text{Ge}_y$; and
 - a [fourth strained or defect] separation layer comprising at least one material selected from the group consisting of [comprising either a] strained $\text{Si}_{1-z}\text{Ge}_z$ [layer] with $z \neq y$, [or other]III-V materials,[or]and II-VI materials[; and]
 - [a fifth relaxed layer comprising either a relaxed $\text{Si}_{1-w}\text{Ge}_w$ layer where w is close or equal to y , or, when y is equal to 1, at least one of Ge, GaAs, AlAs, ZnSe and InGaP].